

S-123 Data Model Revision for Ed.1.1.0

Shwu-Jing Chang

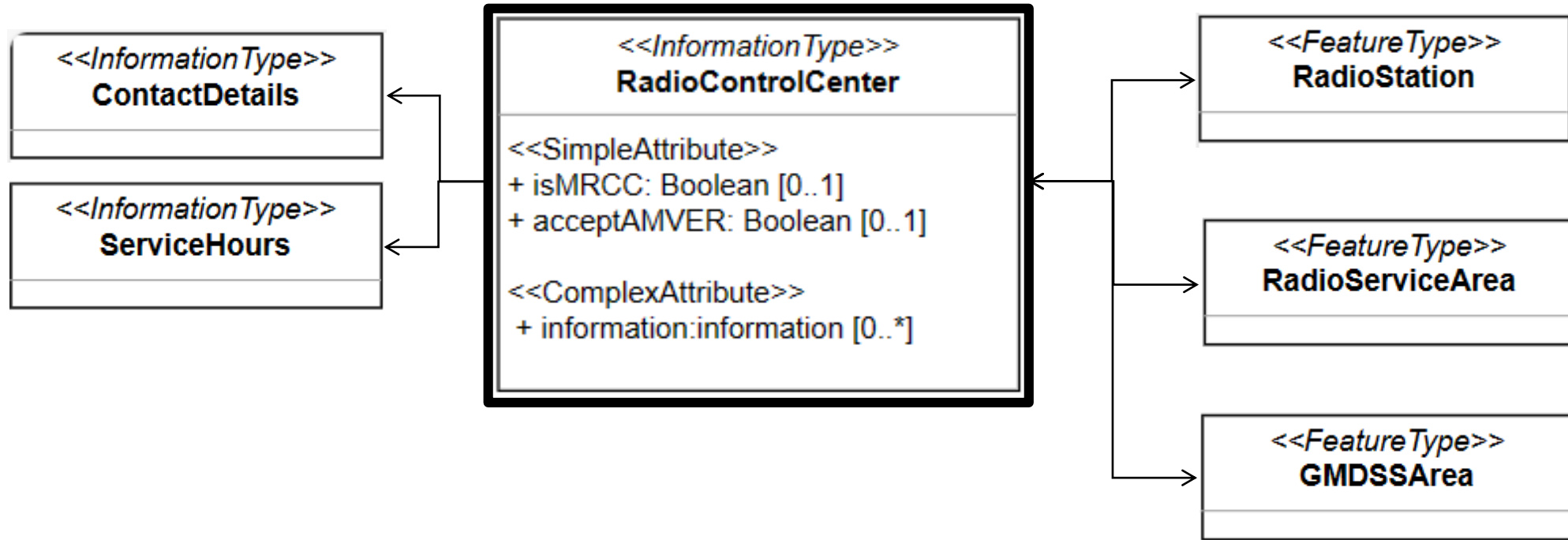
List of Major Changes

- Remove feature types:
 - Landmark, Building, CoastguardStation, InmarsatOceanRegionArea
- Add information types:
 - RadioControlCenter, TransmissionDetails, BroadcastDetails
- Remodel feature types:
 - RadioStation, RadioServiceArea, WeatherForecastWarningArea
 - GMDSSArea(merge InmarsatOceanRegionArea)
- Rename & remodel:
 - NavtexStationArea → NavtexServiceArea
 - NavigationalMeteorologicalArea → NavArea, MetArea

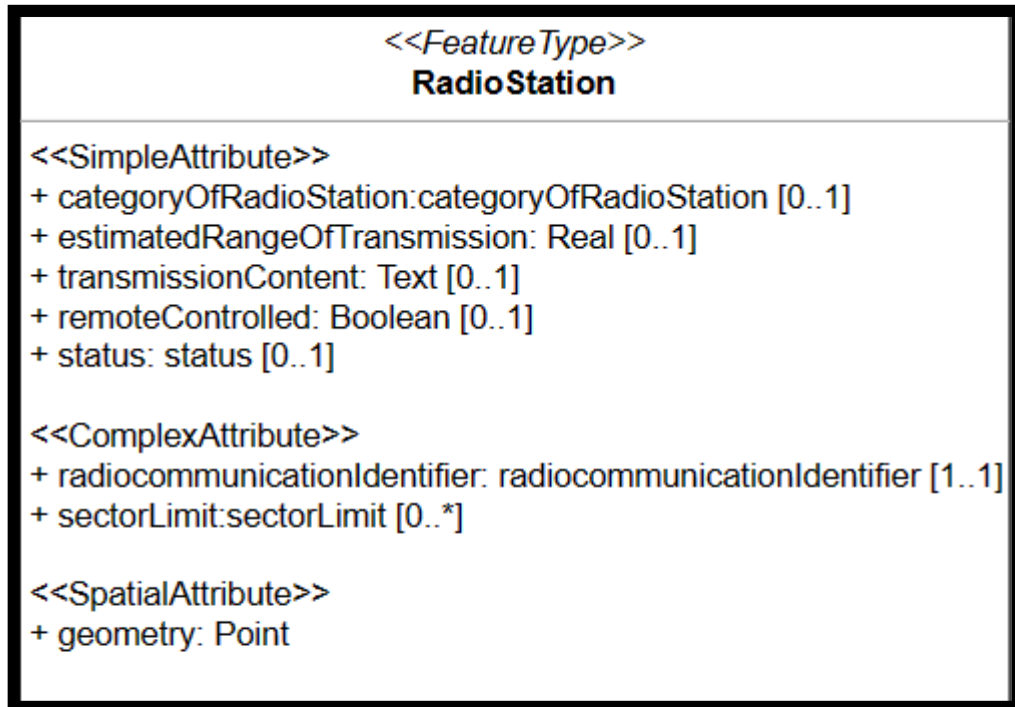
List of Changes

- Revise complex attribute:
 - Remove 'timeReference'
- Add attribute:
 - hoursOfWatch, to support common situations such as 24 hour service
 - acceptAMVER
- Possible changes common to other Product Specs
 - e.g. the use of 'radiocommunications' in ContactDetails
 - 'radiocommunications' in S-123 has been remodeled into (replaced by) some Information Types, as presented in NIPWG VTC2, June 2023

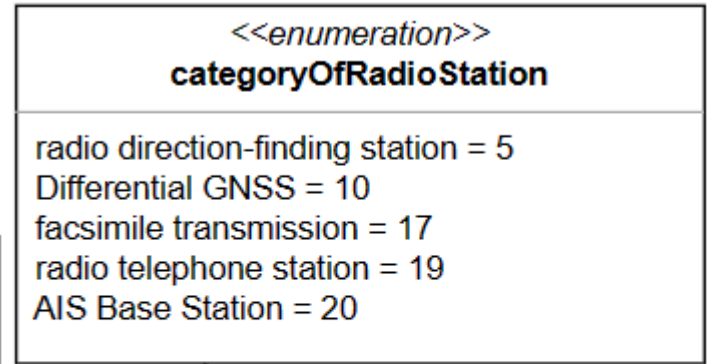
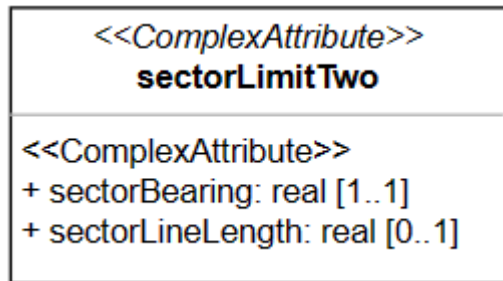
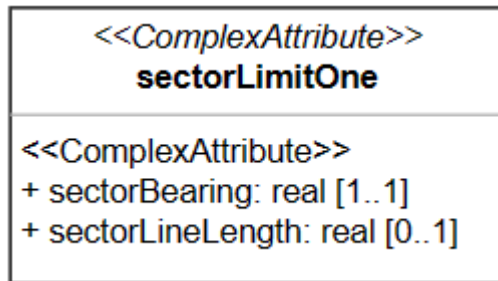
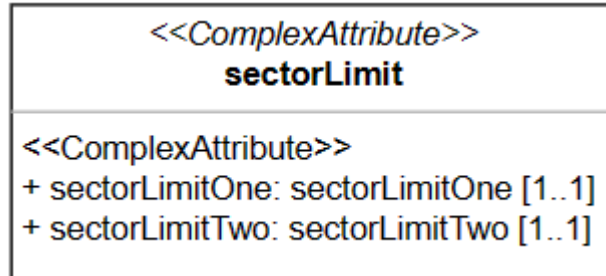
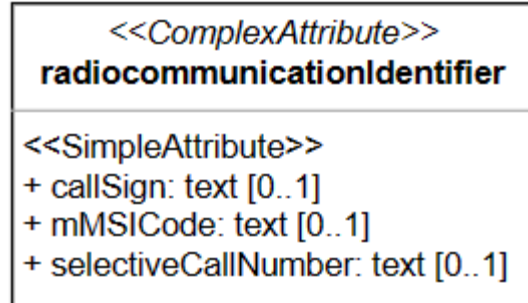
Radio Control Center



Radio Station



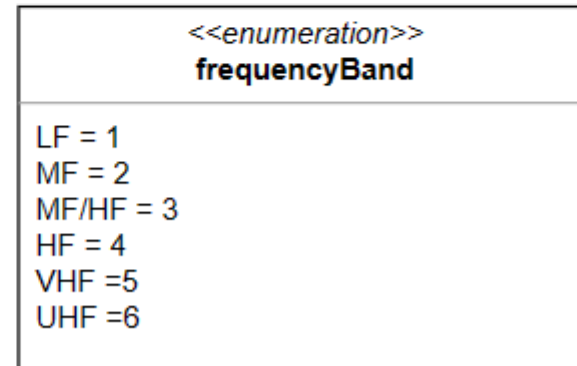
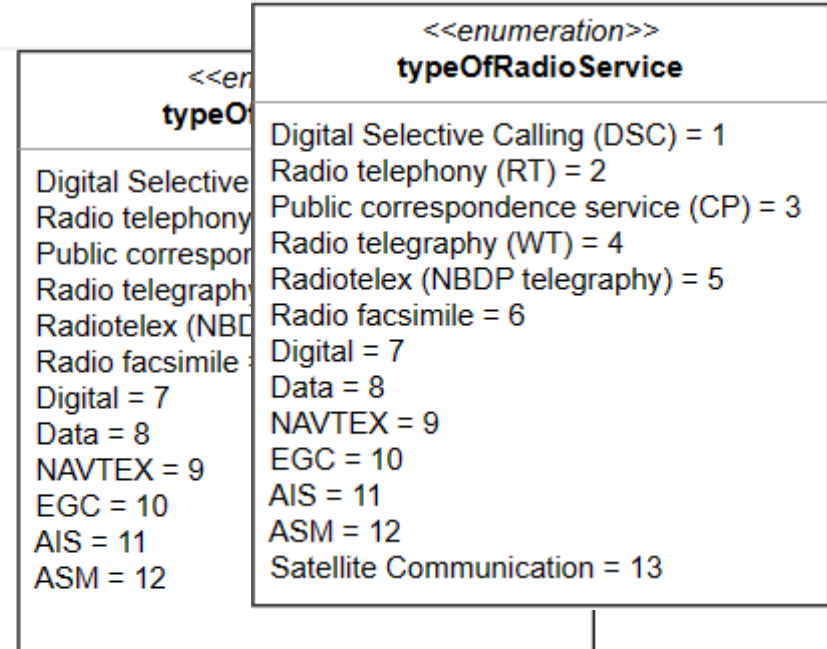
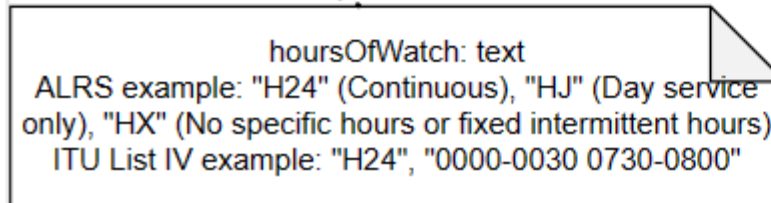
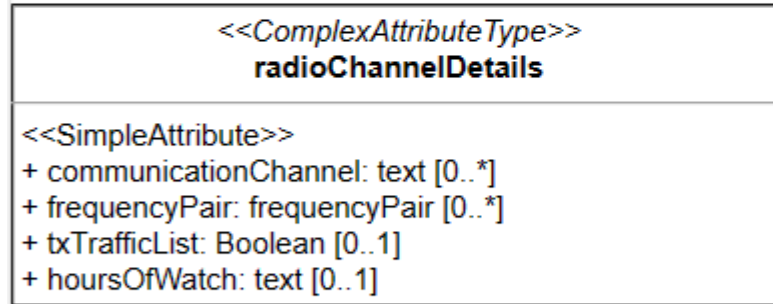
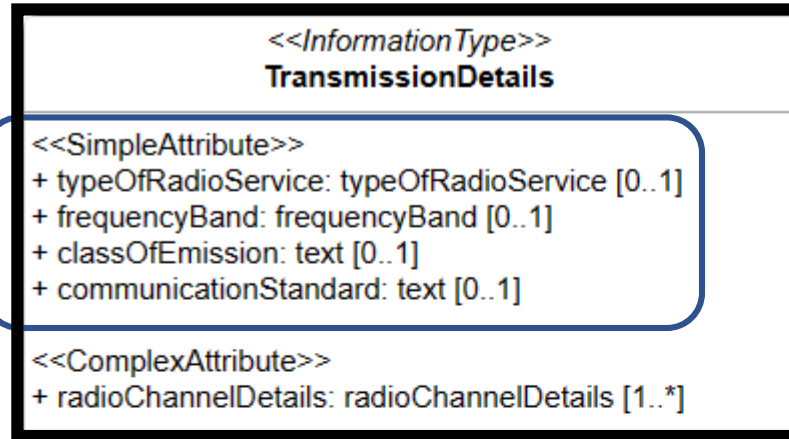
One instance per radioMethod or equipment type;
Example 'transmissionContent': "Safety & Distress Calling"



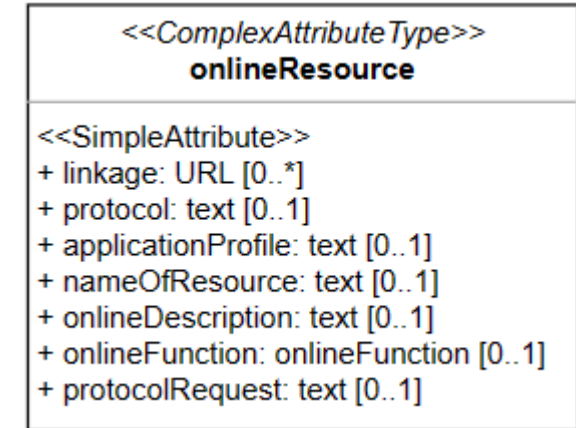
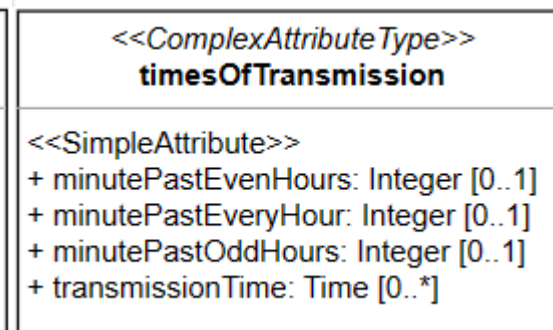
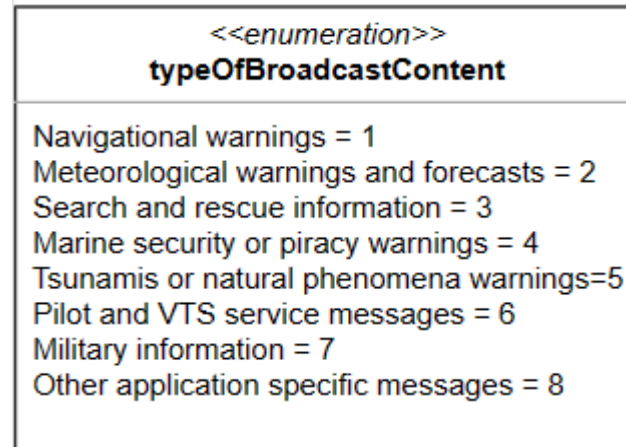
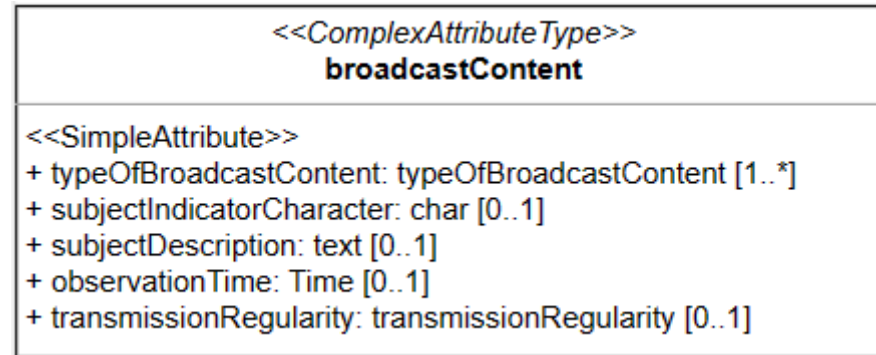
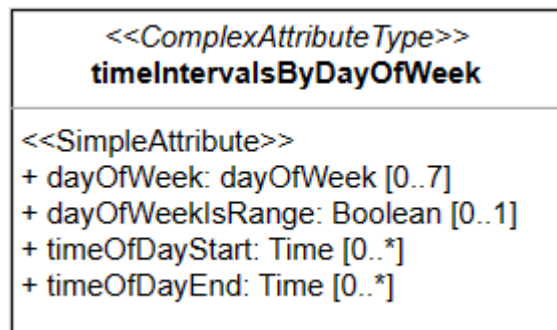
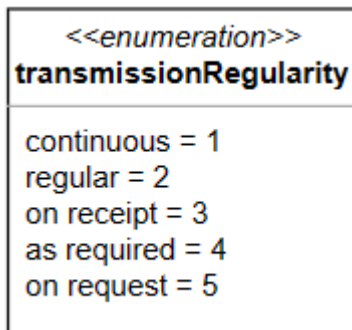
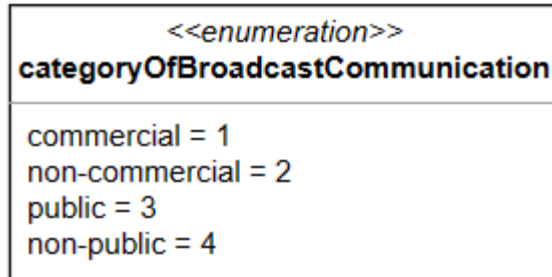
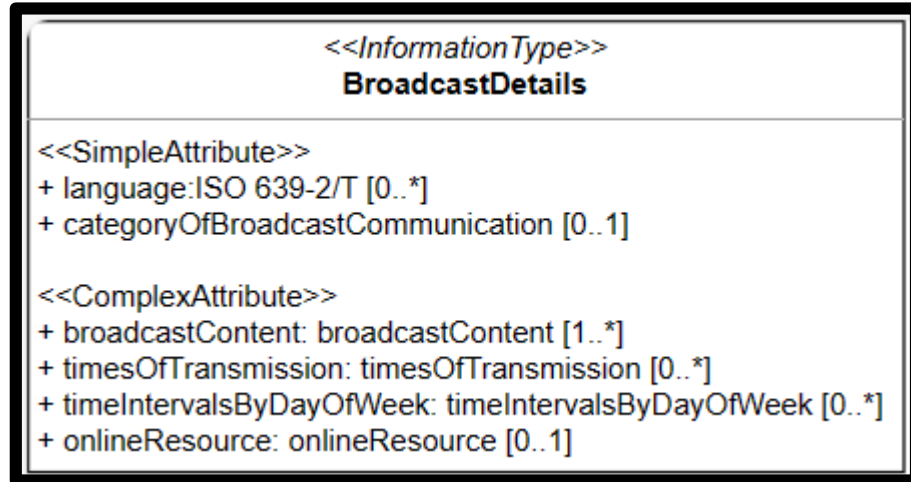
facsimile (17) is not in the GI Registry

Transmission Details

Or
 <<ComplexAttribute>>
 + radioMethod



Broadcast Details



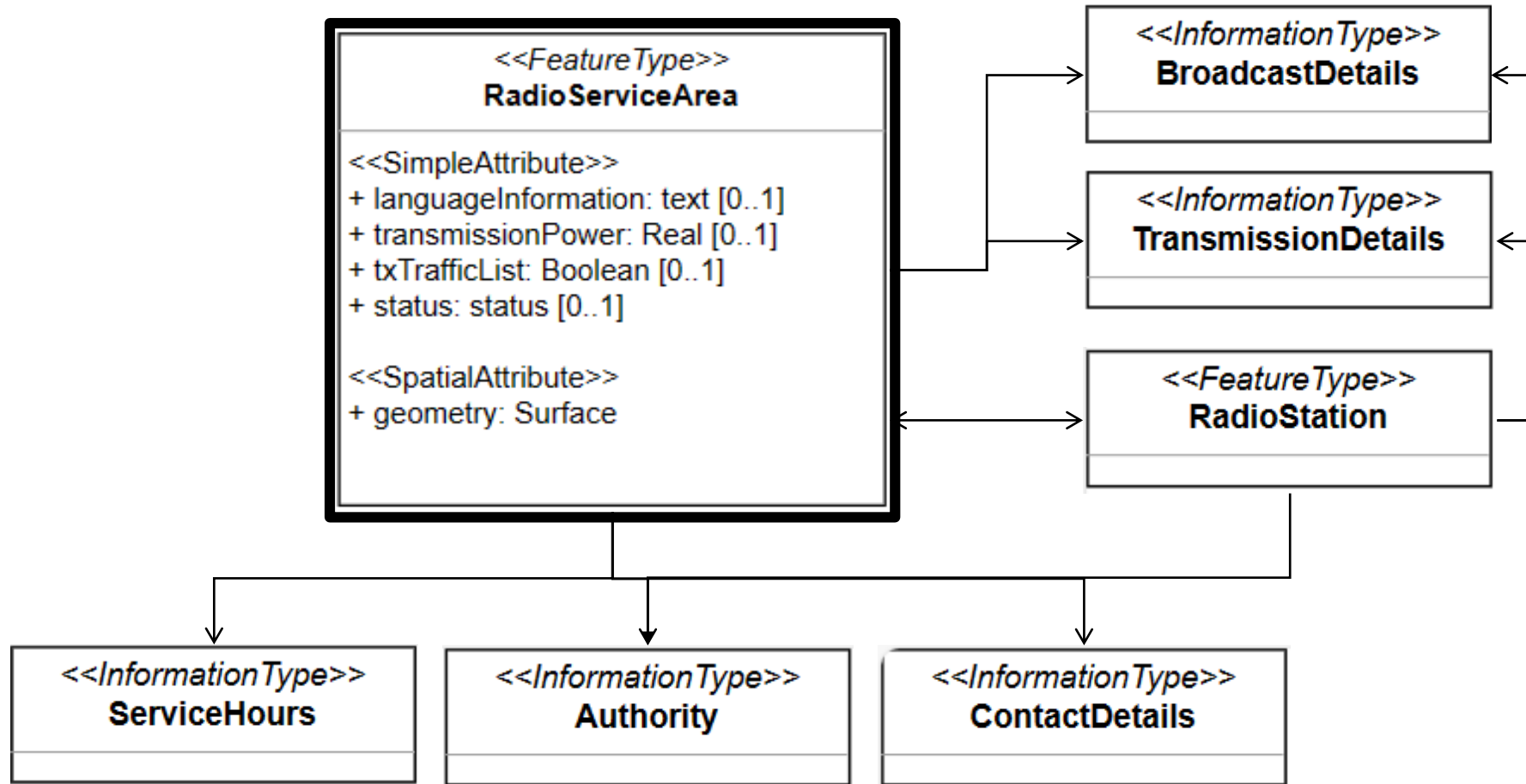
Aspects of Service Areas to be Modelled in S-123

| S-123 Feature Type | Responsible/intended/claimed | Radio coverage | Content coverage of two-way comm. |
|--|------------------------------|----------------|-----------------------------------|
| RadioServiceArea | ✓✓ | ✓ | |
| NavtexServiceArea (originally, NavtexStationArea) | ✓ | | ✓ |
| NavArea (NAVAREA, split from the original NavigationalMeteorologicalArea) | ✓✓ | | ✓ |
| MetArea (METAREA, split from the original NavigationalMeteorologicalArea) | ✓✓ | | ✓ |
| WeatherForecastWarningArea | ✓ | | ✓✓ |
| GMDSSArea (merge InmarsatOceanRegionArea) | ✓ | | |

When impractical to encode the radio coverage, e.g. in HF band,

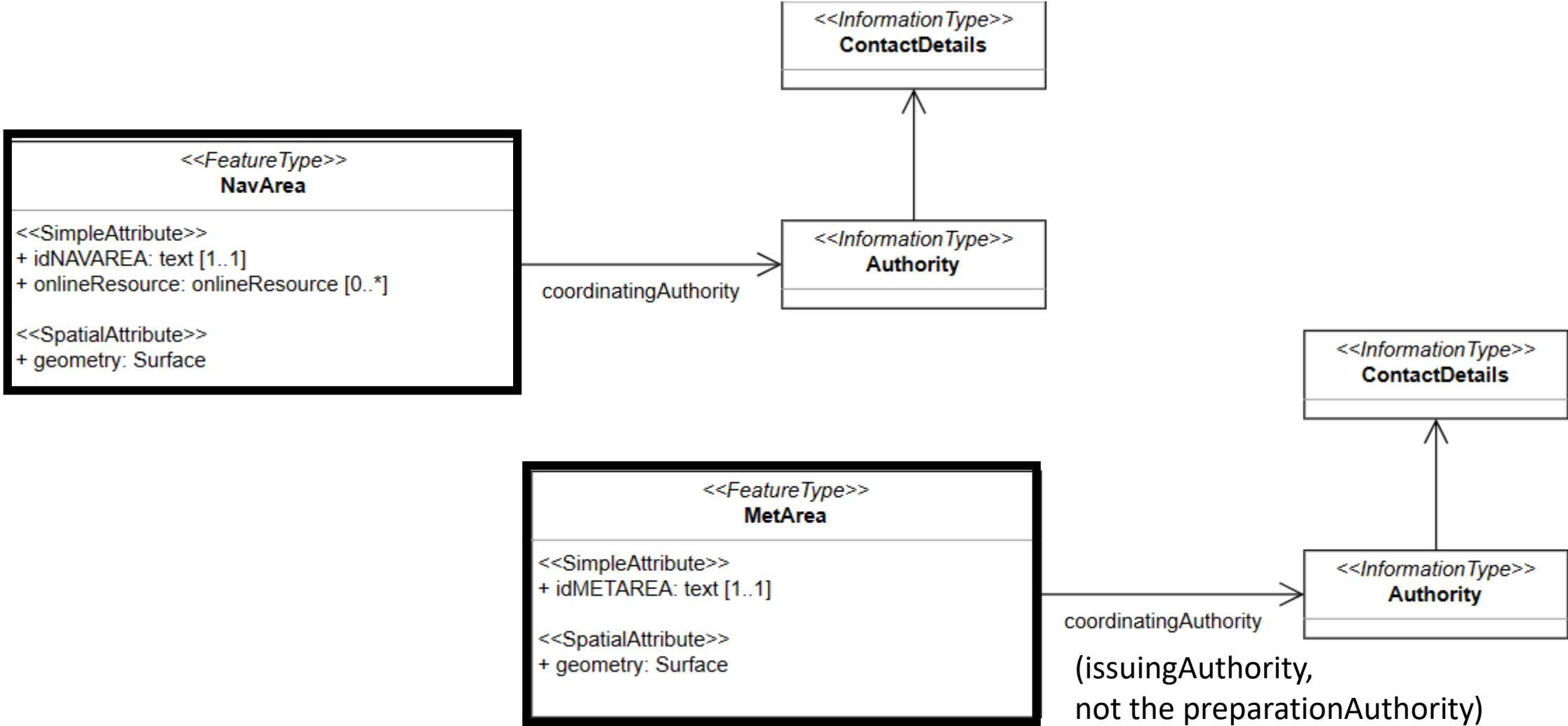
- (1) Encode the extent of the service by using 'estimatedRangeOfTransmission' of 'RadioStation' feature
- (2) Encode the intended area, associated with Information types (TransmissionDetails, BroadcastDetails)

Radio Service Area

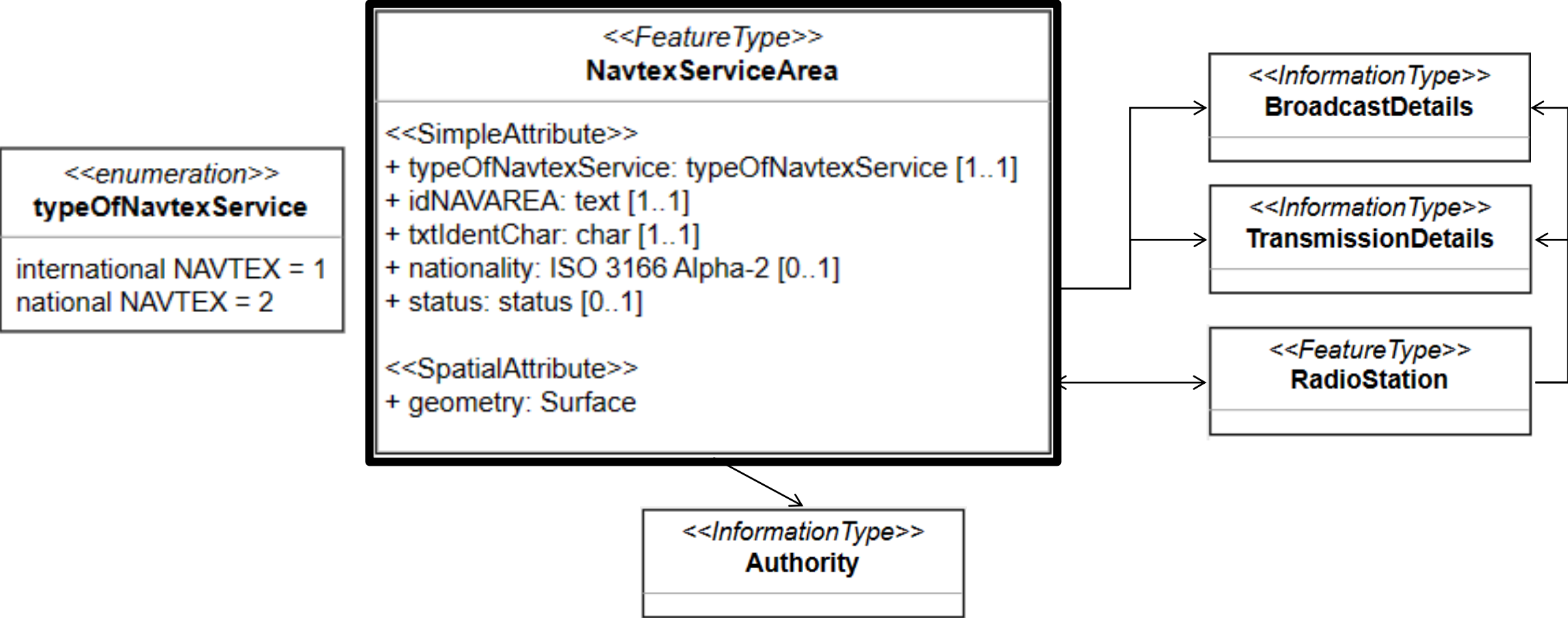


Information bindings and Feature bindings : all optional

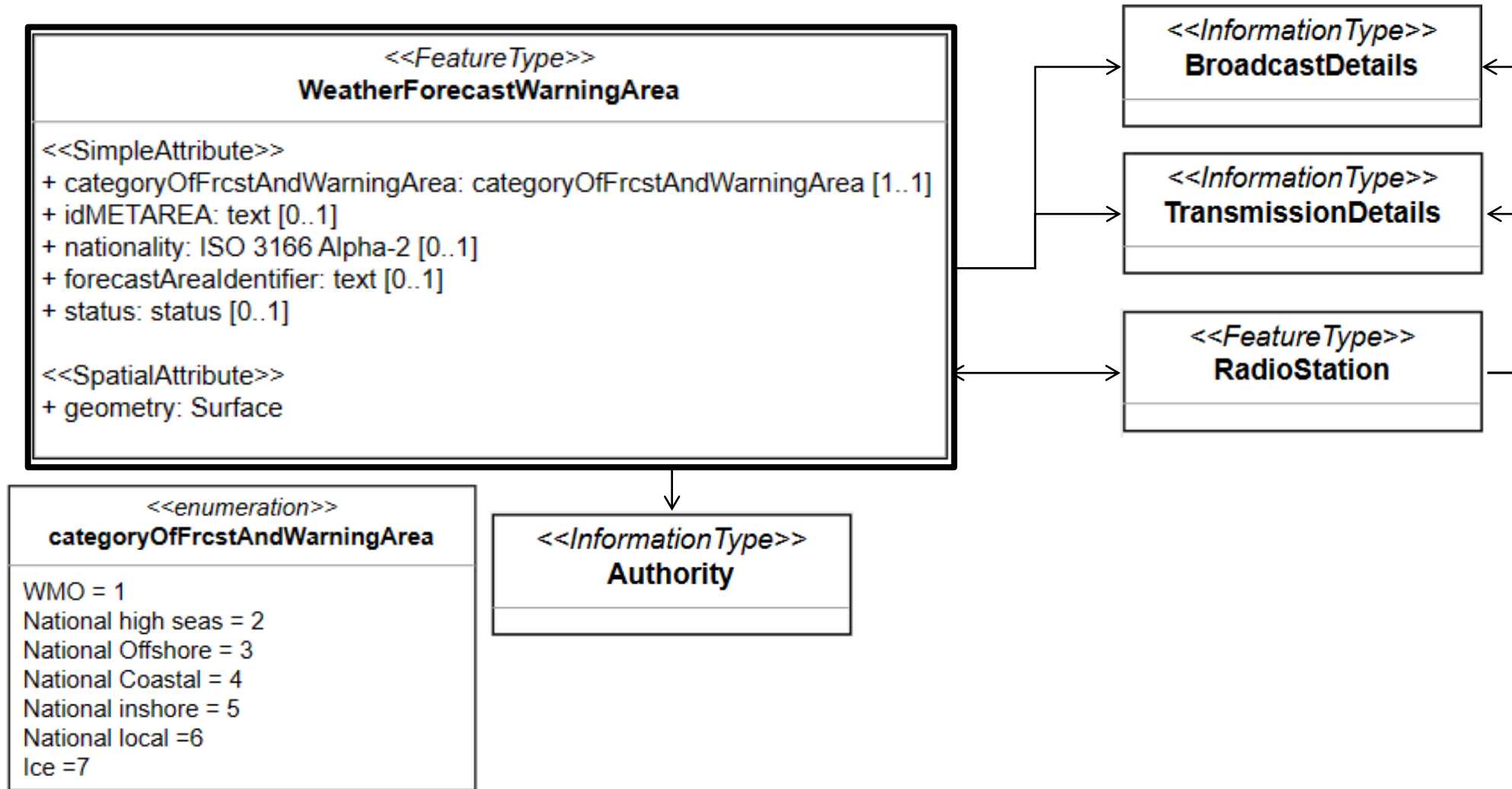
NavArea and MetArea



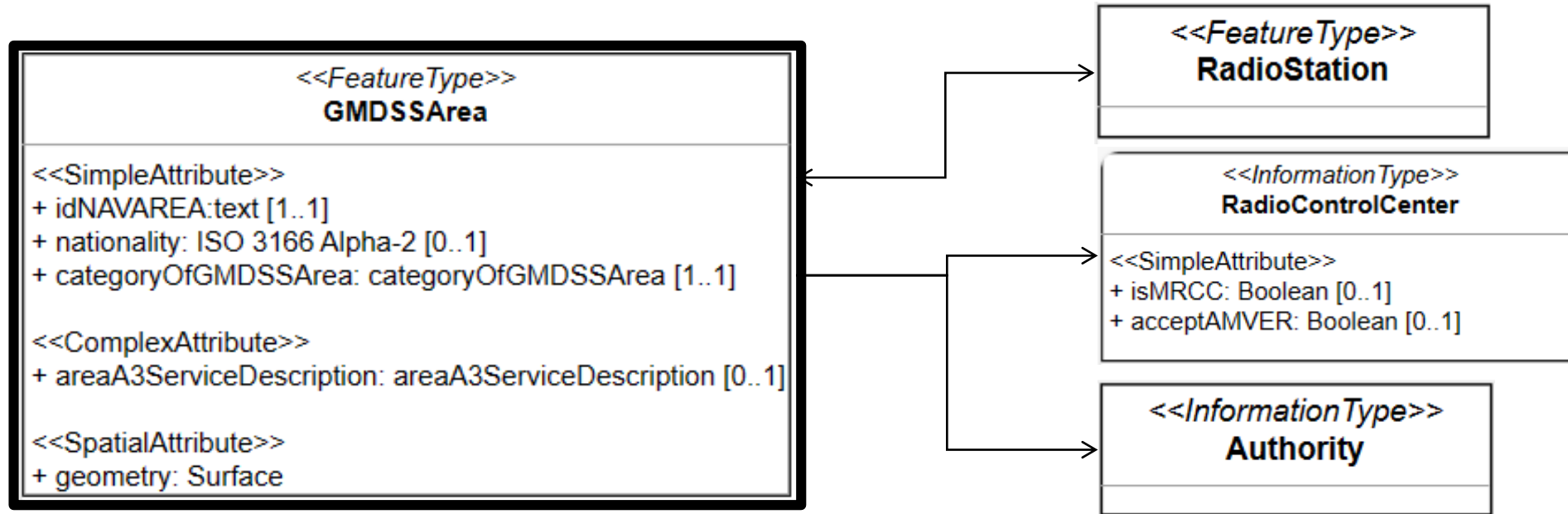
Navtex Service Area



Weather Forecast Warning Area



GMDSS Area

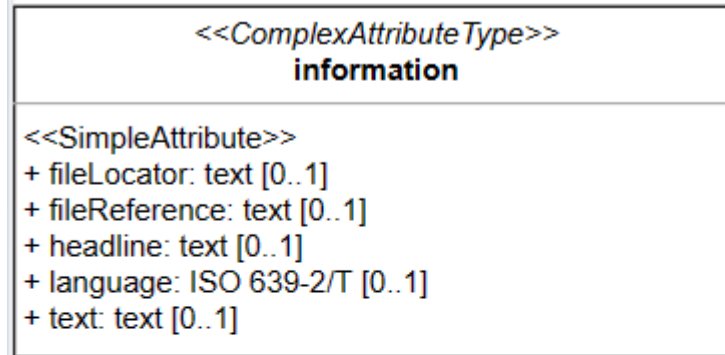
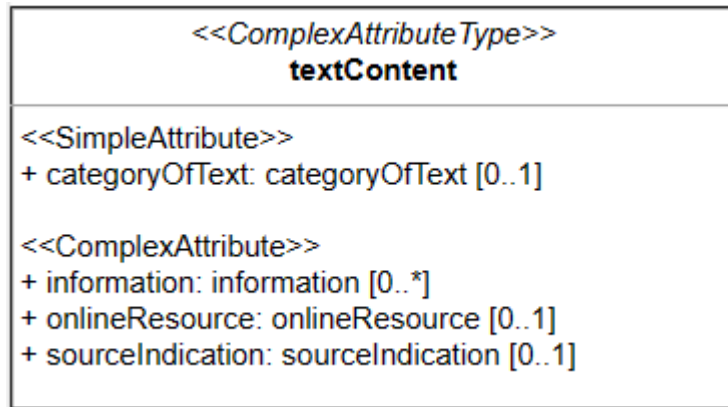
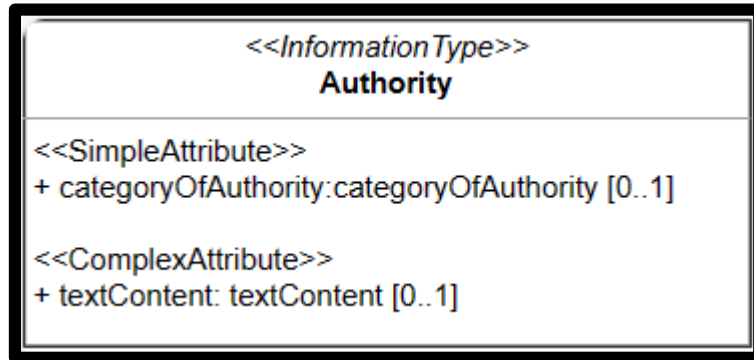


| <<enumeration>> categoryOfGMDSSArea |
|--|
| Area A1 = 1 |
| Area A2 = 2 |
| Area A3 = 3 |
| Area A4 = 4 |

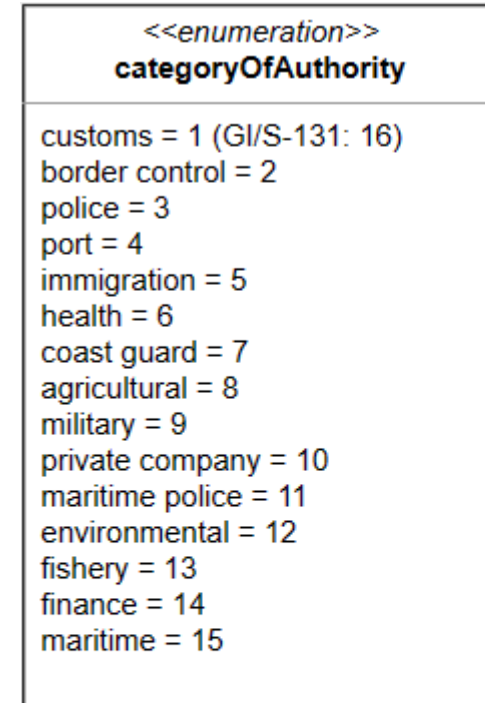
| <<ComplexAttribute>> areaA3ServiceDescription |
|---|
| <<SimpleAttribute>> |
| + servingMobileSatelliteService: servingMobileSatelliteService [1..*] |
| + satelliteOceanRegion: text [0..1] |
| + mSICoastalWarningArea: text [0..1] |

| <<enumeration>> servingMobileSatelliteService |
|--|
| Inmarsat SafetyNET = 1 |
| Iridium SafetyCast = 2 |

Authority

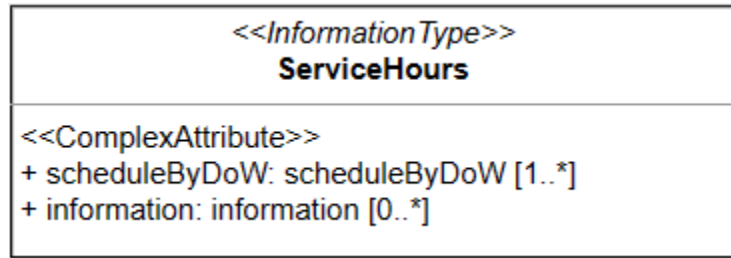


fileLocator & fileReference (to .htm file) could be a way to provide contact details of the authority, as an alternative to binding another ContactDetails information type.

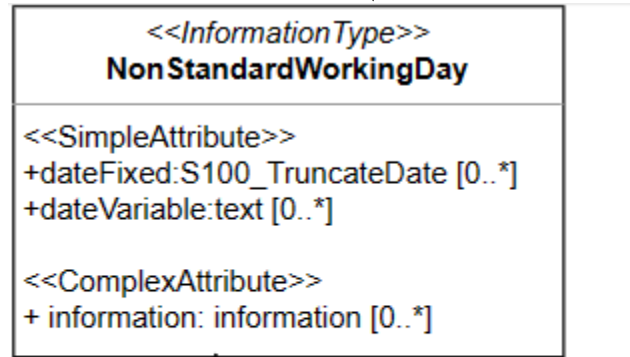


not consistent with that of S-131/GI Registry
Consider to add: land administration, communication, transportation, energy, infrastructure, meteorological ?
or have a more generalized categorization ?

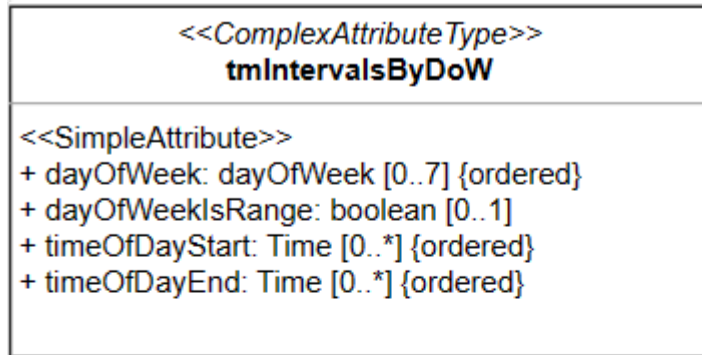
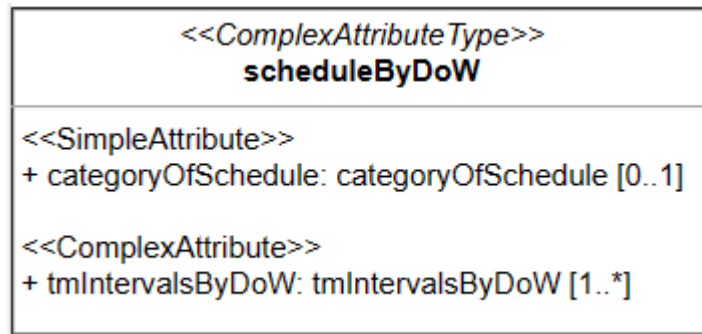
Service Hours



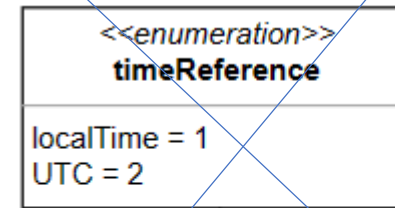
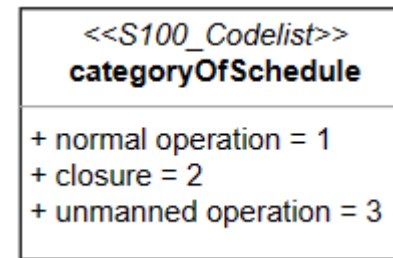
exceptionalWorkday



Interpreted as closure on the specified days.



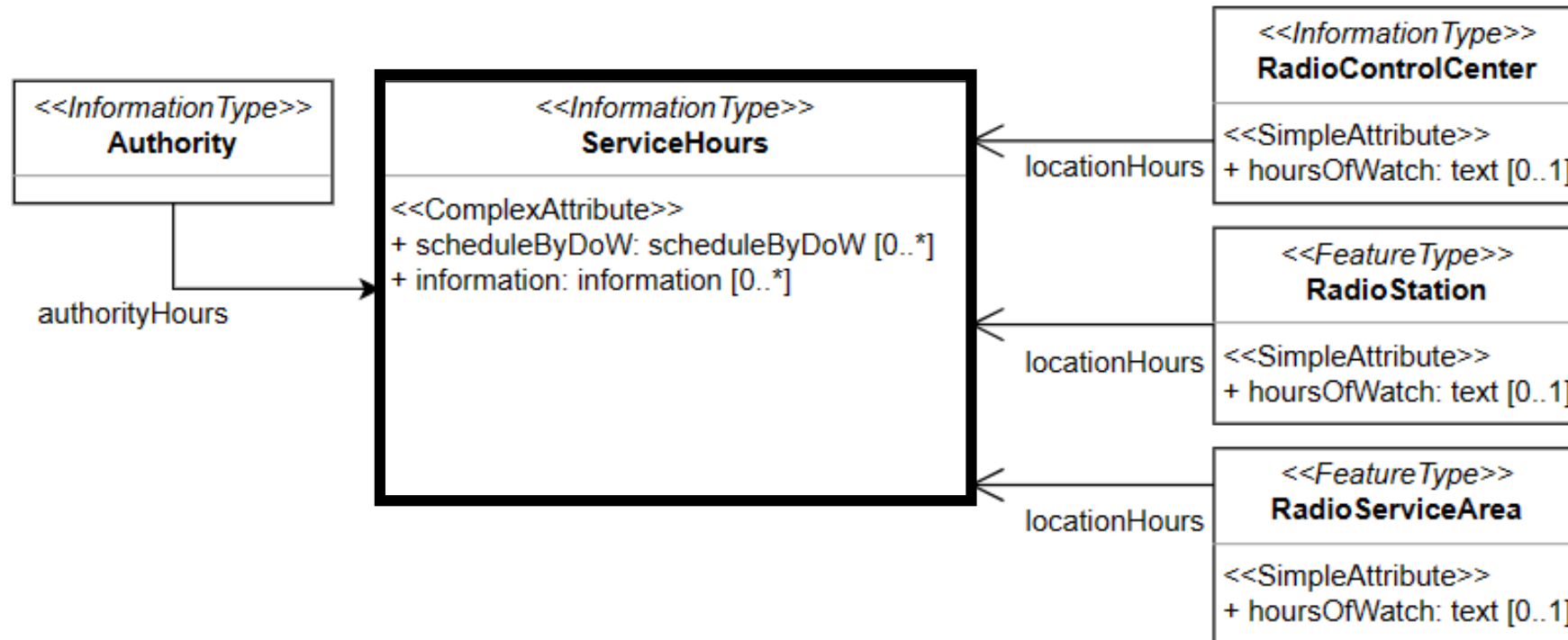
'timeReference' removed
 S-131 Remarks: The time of day end and time of day start must be encoded using 2 digits for the hour (hh), 2 digits for the minutes(mm) and 2 digits for the seconds (ss). This conforms to ISO 8601:2004.
 S-131 DCEG: UTC is indicated by the Z suffix. The absence of the Z suffix indicates local time.
 S-100 Ed.5.0.0 Example for XML encoding of Time:
 18:30:59Z ; 18:30:59+01:00 ; 18:30:59



no longer found in GI Registry;
 not in S-131 either

Service Hours: common situations of H24

- To answer the feedback : “Consider simplifying service hours to support common situations such as 24 hour service (instead of using the entire **ServiceHours** information type)”
- Add ‘hoursOfWatch’ to locationHours (& radiochannelDetails)

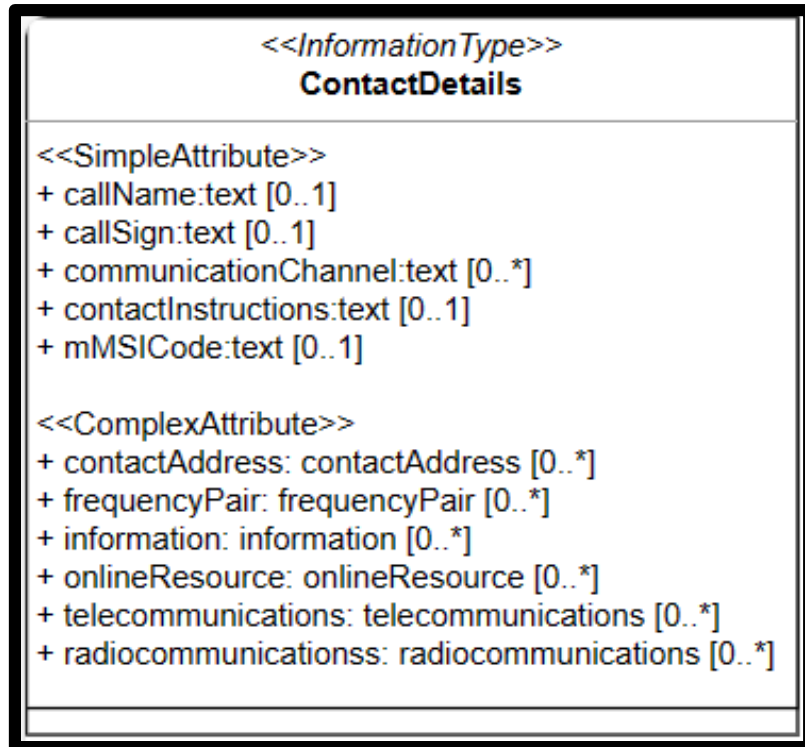


Further Revisions to be discussed

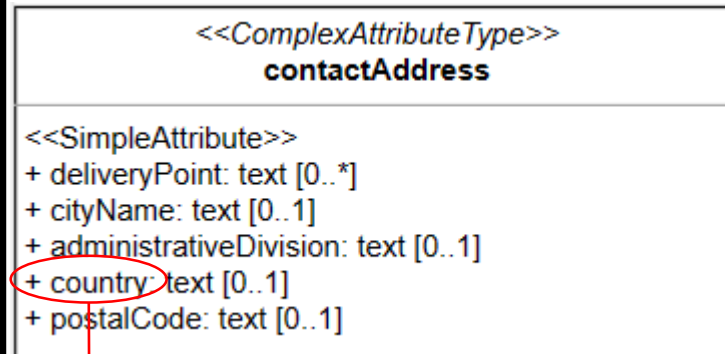
- ContactDetails
 - language indication
 - radiocommunication

Contact Details

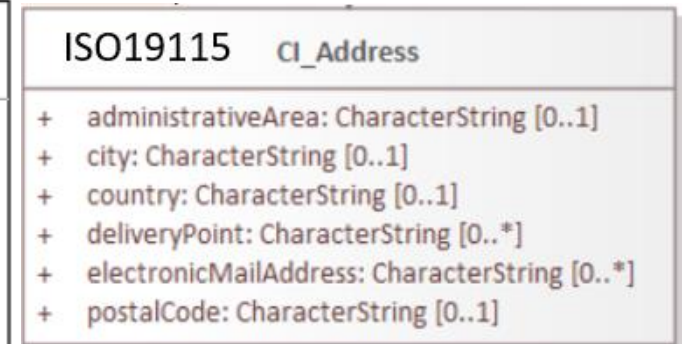
- Feedback:
 - Add 'language' indication
 - 'country' → 'countryName'



- Options
 - Simple attribute of ContactDetails
 - language: ISO639-2/T [0..*]
 - Sub-attribute of contactAddress
 - language: ISO639-2/T [0..1]



'countryName'
(as S-127 & S-131)

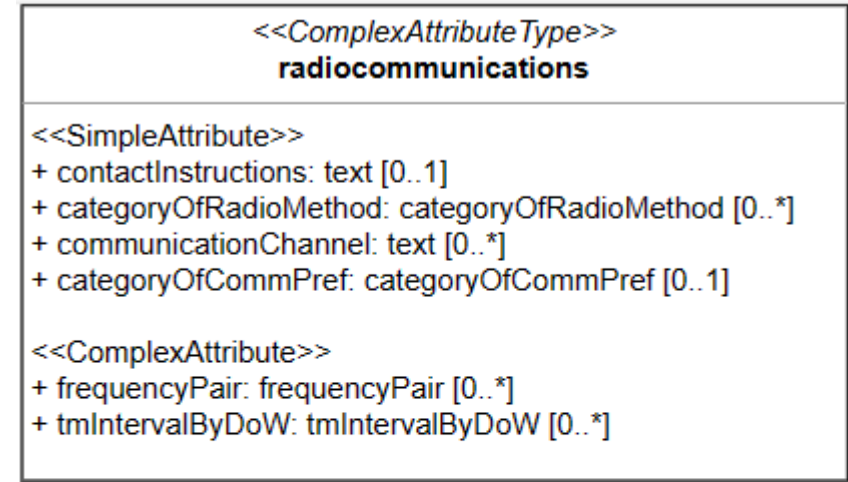


Note:

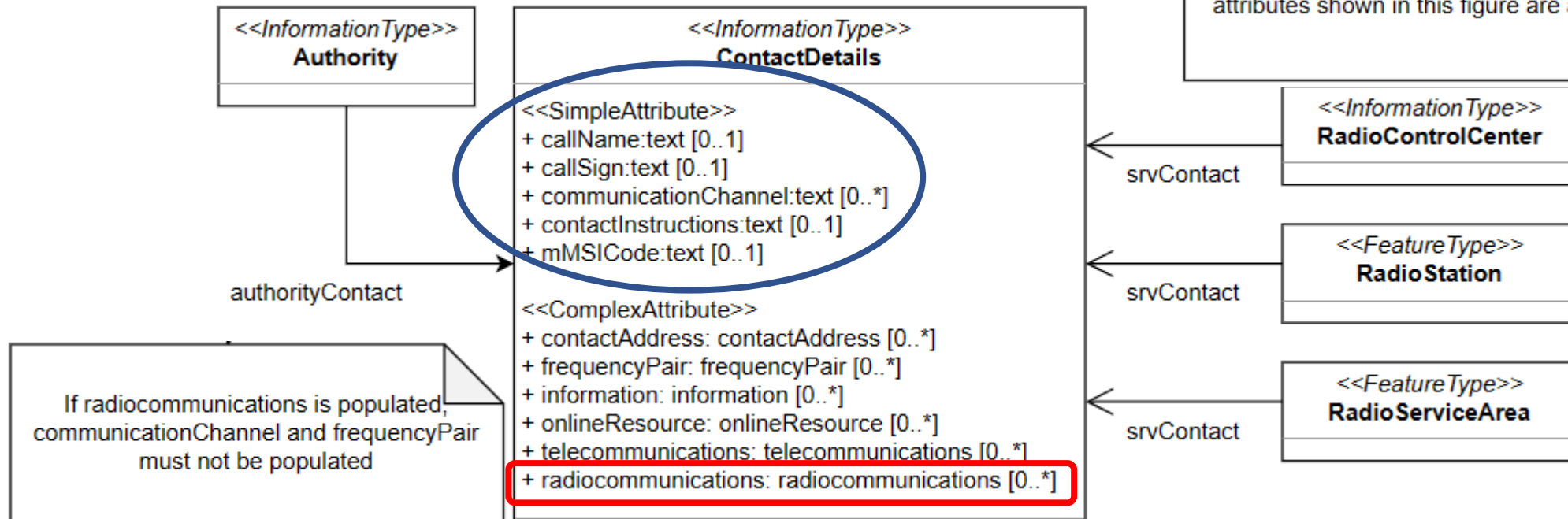
1. In ISO19115, email address is an address.
2. "Email service is not a telecommunication service."

Contact Details

- Feedback:
 - Restrictions on 'radiocommunications'
- Remove 'radiocommunications' from it ?



When bound to ContactDetails only the sub-attributes shown in this figure are allowed



Contact Details: comparison among Product Specs

| | ContactDetails [InformationType] | | Feature Catalogue | | | | |
|----|-----------------------------------|-------------|-------------------|--------------------|-------|--------------------|-------|
| | AttributeBinding | GI Registry | S-101 | S-122 | S-123 | S-127 | S-131 |
| 1 | callSign | Y | Y | Y | Y | Y | Y |
| 2 | communicationChannel | Y | Y | Y | Y | Y | Y |
| 3 | conatctInstructions | Y | Y | Y | Y | Y | Y |
| 4 | fixedDateRange | Y | Y | no | no | no | Y |
| 5 | frequencyPair | Y | Y | Y | Y | Y | Y |
| 6 | mMSICode | Y | Y | no | Y | Y | Y |
| 7 | onlineResource | Y | Y | Y | Y | Y | Y |
| 8 | telecommunications | Y | Y | Y | Y | Y | Y |
| 9 | callName | no | no | Y | Y | Y | Y |
| 10 | categoryOfCommunicationPreference | no | no | categoryOfCommPref | no | categoryOfCommPref | Y |
| 11 | contactAddress | no | no | Y | Y | Y | Y |
| 12 | signalFrequency | no | no | no | no | no | Y |
| 13 | information | no | no | Y | Y | Y | Y |
| 14 | radiocommunications | no | no | no (yes in DCEG) | Y | no (yes in DCEG) | no |
| 15 | language | no | no | no | no | Y | no |

'radiocommunications' in 'ContactDetails'

| radiocommunications [ComplexAttribute] | | Feature Catalogue | | | |
|---|-----------------------------------|--------------------|--------------------|--------------------------|---------|
| | Sub-attributes | S-122 | S-123 | S-127 | [S-131] |
| 1 | communicationChannel | Y | Y | Y | |
| 2 | contactInstructions | Y | Y | Y | |
| 3 | frequencyPair | Y | Y | Y | |
| 4 | timeIntervalsByDayOfWeek | tmIntervalsByDoW | tmIntervalsByDoW | timeIntervalsByDayOfWeek | |
| 5 | categoryOfCommunicationPreference | categoryOfCommPref | categoryOfCommPref | categoryOfCommPref | |
| 6 | categoryOfRadioMethods | no | Y | Y | |
| 7 | categoryOfMaritimeBroadcast | no | no | Y | |
| 8 | transmissionContent | no | no | Y | |
| 9 | signalFrequency | no | no | Y | |

Note:

S-122 and S-127 use 'radiocommunications' to encode GMDSS Safety & Distress frequencies in 'ContactDetails'
S-127's 'radiocommunications' has broadcast-related elements.

In S-127 PS/DCEG, 'ContactDetails' has sub-attribute 'radiocommunications'

(In S-127 FC, 'radiocommunications' is not bound to any feature or information types)

Action required of NIPWG

The NIPWG is invited to:

- Note this paper;
- Provide input;
- Consider the approval of the proposed change in S-123 data model, or
- Take other actions as appropriate.